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A Hybrid Approach to Restrictive Relative Clauses

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Abstract

This study is an attempt to analyze relative constructions, especially restrictive relative clauses, by selectively combining two incompatible approaches to relativization. One approach is the standard one, which base-generates the head of a relative clause and adjoins the clause to it, and the other its alternative, which posits a determiner as selecting a CP relative clause and analyzes a DP comprising the relative pronoun plus the relative head as raising to SpecCP within the relative CP.

The reasoning for this hybrid approach is that each of these approaches has its own strengths and weaknesses, and that the weaknesses of each are exactly the virtues of the other. The strategy that the hybrid approach adopts is to incorporate only the strengths of both approaches, shedding their drawbacks. Specifically, the approach basically follows the standard approach, base-generating the relative head externally to the relative clause, and then adopts the most crucial aspect of its alternative, generating both the relative pronoun and the matching nominal head internally to the clause and raising both of them to relative SpecCP.

In order to circumvent the redundancy of the head, a deletion under identity operation is invoked to delete the matching head internal to the relative clause in phonology. This analysis predicts correctly that when the internal head does not match the external head, they both surface as, for example, in Japanese and Chinese gapless relatives. Deletion may exceptionally apply to the external head as a marked option, or more plausibly, the external head may be null in Classical Japanese, Ancash Quechua, Lakhota, etc.

Keywords: relative clauses, raising analysis, internally headed, deletion, Japanese

1. Introduction

Although relative clauses (RCs) have been extensively studied in the generative grammar for decades, they have eluded a satisfactory analysis, with many questions still left open. Conventional wisdom has it that RCs come in three varieties: (i) Restrictive Relative Clauses (RRCs), (ii) Appositive Relative Clauses (ARCs), and (iii) Maximalizing Relative Clauses (MaxRCs) (see Grosu & Landman 1998, Bianchi 2004, etc.; cf. Carlson 1977). MaxRCs

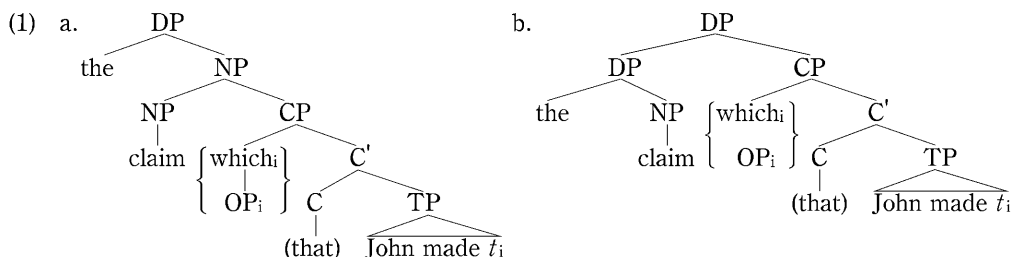
encompass Degree Relatives, Free Relatives (FRs), correlatives, and some internally headed relatives.

My major concern in this study is to examine restrictive relatives as a step towards resolving some of their unresolved problems. I propose to combine some aspects of the two conflicting approaches to RRCs advanced so far, specifically the traditional approach of base-generating the head outside the adjunct RC and its alternative, i.e., the determiner complementation plus raising approach, and then to supplement them with a deletion-under-identity operation.

2. The remaining problems with the analyses proposed in the literature

A good summary of the preceding studies of RCs is presented in “Introduction” to Alexiadou, Law, Meinunger, and Wilder (2000) (henceforth, Alexiadou et al. 2000) with a lucid account of the problems associated with the proposals discussed. They contrast basically two mutually exclusive approaches to RRCs, the standard view with an RC adjoined to the NP head, which is base-generated outside of the RC, and an alternative one with determiner complementation and raising of the relativized nominal.

Let us begin with the first approach. The standard approach to RRCs, labeled “the matching analysis,” posits an RRC, say CP, as adjoined to NP (or NumP) (1a), not to DP (1b). See Chomsky (1977), Browning 1991, etc. Consider (1a) and (1b).¹



I believe that adjunction of CP to DP as in (1b) should be reserved for ARCs (i.e., nonrestrictive RCs), in which the operator must be overt (e.g., *which*), not a null operator (OP), and the complementizer must be null. In contrast, RRCs have something like the structure in (1a), either with an overt operator or an OP that raises to SpecCP. Alexiadou et al. (2000: 5) pointed out that if we assume semantic scope reflects c-command, RRCs cannot be adjoined to DP, citing for evidence a phrase “[_{DP} every [_{NP} girl [_{CP} that Mary saw]]]” with the reading “ \forall_x [girl(x) \wedge Mary saw(x)].”

By contrast, ARCs are not interpreted within the scope of the determiner and thus the head

is denotationally independent of the RC. So they can be taken to have something like the structure in (1b), assuming semantic modification is encoded in syntactic structure such that modification arises from adjunction of a modifier to the modified. For example, an adjectival phrase is adjoined to a nominal head, an adverbial modifier is adjoined to VP, TP, etc. Ernst (2002: esp. ch.3) advocates such a view, presenting persuasive arguments in favor of his scope-based theory (based on the idea that adverbials adjoin freely to any projection) over Cinque's (1999) theory of generating adjuncts as specifiers of rigidly UG-ordered functional heads and licensing them in terms of Spec-head checking. For more on this, see the discussion concerning (18) below.

This distinction between RRCs and ARCs in terms of structure is fairly standard; see Jackendoff (1977) among others. At any rate, on this approach neither the determiner nor the nominal head selects a relative clause CP as its argument in (1a) and (1b).

As Alexiadou et al. (2000: 8) observe, there is some evidence to believe that a determiner does select an RC. In German, a determiner *derjenige* requires an RRC.

(2) *derjenige* (Mann) *(*der dort sitzt*)

the + that man who there sits 'the very man(/person/one) who is sitting there'

Certain nominal expressions with a definite or an indefinite determiner in English, such as those involving *kind of*, *way*, etc. also require an RRC, which suggests that the determiner in these constructions selects an RC, at least semantically, if not syntactically.

(3) a. She is the kind of person *(that is always helpful).

b. He did it in a way *(that annoyed me). (Alexiadou et al. 2000: 8)

This selection of an RC by a determiner is not straightforward in the matching analysis, in syntactic terms at least. But this is not a serious problem for the analysis because a semantic account is conceivable.

More importantly, anaphor connectivity and facts about bound pronouns fail to be straightforwardly accounted for by this analysis. Consider (4).

(4) a. (?)the portrait of *himself* which *the artist, Bill*, exhibited at the opening

b. the pictures of *each other* that I think *the men* looked at

Under this standard approach (see (1a)), the "trace" of the "operator" (overt *which* in (4a) and null OP in (4b)) does not contain the relevant anaphor, so the anaphor would not be properly bound in the structure with the operator reconstructed in its launch site.

In a similar vein, on the standard approach the bound pronoun reading of *her* in (5) does not lend itself to a simple account, given that the null OP alone raises.

(5) the basket for *her* lunch that *each girl* brought.

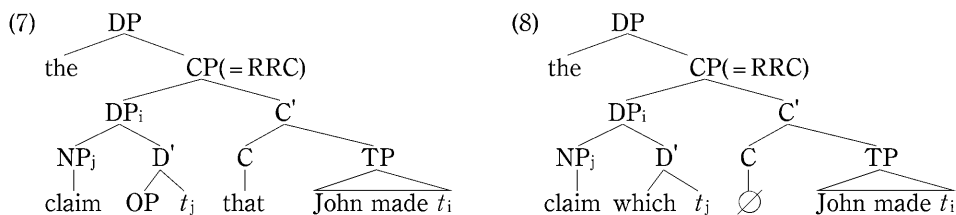
In this analysis, the bound pronoun *her* in the head nominal of the relative construction will not be bound, even under reconstruction, because the pronoun will not reconstruct back into the RC. Instead, OP alone reconstructs into the RC.

Nor can the scope reversal in a case like (6) be easily accounted for:

(6) I telephoned the [*two patients*] [that *every doctor* will examine *t*] [$\forall > 2$]

The reason is that again only the OP will reconstruct back to its original launch site (*t*) in the RC in the matching analysis. Thus, it does not predict, *ohne weiteres*, the wide scope reading for *every doctor* vis-à-vis *two patients*.

An alternative approach to relativization typically combines the determiner complementation hypothesis (e.g. Smith 1969) with the head raising hypothesis, the so-called promotion analysis (e.g. Schachter 1973, Vergnaud 1974): the former posits the RC as a syntactic complement to the determiner, and the latter assumes that the head noun phrase overtly raises out of the RRC. This combination is not inevitable nor made by Schmitt (2000), who entertains the former, but not the latter. Vergnaud (1985) and Kayne (1994: ch.8) argue for such combination. Observe (7)-(8).²



In (7) and (8), for example, the entire DP_i raises to SpecCP as step 1. and then NP_j within DP_i moves to SpecDP as step 2. However, the second step is unattested elsewhere in English grammar, a problem. Further, the Spec of the relative head DP_i is unavailable for a nonoperator phrase like *claim* (Bianchi 2004: 87; cf. Szabolcsi 1994).

Under this alternative approach, the fact about a determiner (*the* in (7), (8)) selecting an RRC can be subsumed into lexical selection. Anaphor connectivity and pronominal binding in (4) and (5) respectively then fall out naturally on this approach given reconstruction, or even better, given the copy theory of movement (Chomsky 1995: § 3.5, esp. p. 202), which proposes to treat traces as phonologically silent copies of their moved antecedents.

(4) and (5) then should be (9) and (10) respectively under this theory, suppressing the post-D original copy within the raised DP for ease of exposition.

(9) a. the [portrait of [himself]_k which]_i [the artist, Bill]_k exhibited [~~portrait of [himself]~~_k

which]_i

- b. the [pictures of [each other]_k OP]_i that I think [the men]_k looked at [~~pictures of [each other]_k OP]_i~~

(10) the [basket for [her]_k lunch OP]_i that [each girl]_k brought [~~basket for [her]_k lunch OP]_i~~

[Strikethrough in (9)-(10) indicates deletion of the phonological material of the items so indicated.]

In (9a), (9b), and (10), the reflexive, the reciprocal, and the bound pronoun *in situ* are properly bound by the antecedent, respectively. Scope reversal in (6) can receive the same “reconstruction” account.

These binding facts in (4)-(5) as well as scope assignment in (6), *ceteris paribus*, favor the raising analysis over the standard base-generation hypothesis for RRCs. By contrast, in view of the absence of reconstruction effects of such binding and scope assignment in ARCs (Alexiadou et al. 2000: 31f.; Bianchi 2004: 83), I assume for ARCs something like the structure (1b) with *which*, in which only *which* raises.³ See § 3.

Similarly, the promotion analysis provides a straightforward account for the Definiteness Effect (DE) preserved under movement in relative constructions.

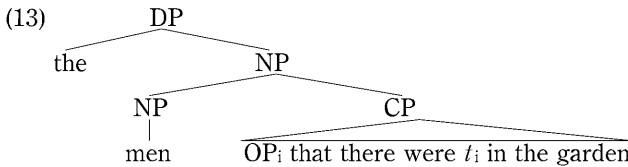
(11) a. the [*men*] that there were in the garden.

- b. There were (**the*) *men* in the garden. (adapted from Alexiadou et al. 2000: 10)

Notice that this raising hypothesis, according to which the head of the RRC raises in the RRC, correctly accounts for (11a). Given the copy theory of movement, (11a) should be (12), in which the DE is observed.

(12) the [*men*] that there were [*men*] in the garden

As Browning (1991) shows, the matching analysis may also account for the DE in (11a) if we assume that the RC is adjoined to NP (or NumP), not to DP. Assuming (13) for (11a), one might say that the operator-variable chain is construed with the modified, i.e., NP *men* in (13):

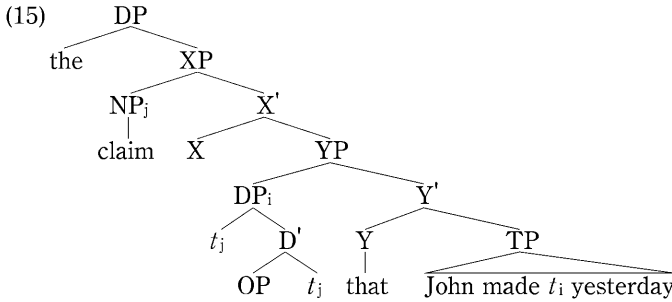


However, extraposition of the RRC is difficult for the alternative approach to deal with without further assumptions about modification of the structure in (7) and (8). As the analysis stands, extraposition of RRCs (CPs) gives rise to ungrammatical outputs, leaving the determiner behind, as in (14), where we get (14b) rather than desired (14a):

(14) a. We will discuss *the claim_{tomorrow} that/which John made yesterday*.

b. *We will discuss *the_{tomorrow} claim that/which John made yesterday*.

One way to remedy the situation is to suggest that the nominal head *claim* is further displaced to the Spec of a higher XP within the RC. An idea that immediately springs to mind in this connection is to split the CP projection, following Rizzi's (1997, 2004, 2009) clausal architecture, currently a fairly standard view. We might then propose that the operator cum head complex makes an initial step of raising to SpecYP in the CP domain as Second Merge from the site of its First Merge, and then the NP_j further moves to a higher Spec of some XP via SpecDP in the same domain, as in (15).



Given (15), one might claim that YP undergoes extraposition raising to the right, subsequent to the raising of the relative head out of YP, yielding the desired result.

A serious problem with this move is that we will be hard put to identify X and Y in (15). Rizzi's (1997, 2004, 2009) proposal for the clausal architecture posits something like the structure in (16), in which X and Y in (15) do not seem to easily fit in.

(16) [...Force [...Top [...Int(errogative) [...Foc [...Mod [...Q [...Fin [...TP]]]]]]]]]

Notice that YP in (15) should be ForceP because a declarative complementizer *that* sits in Y, which must be Force then. This precludes the existence of any higher projection XP in the clausal structure, which accords well with the fact that a topic occurs below the complementizer, as in (17).⁴

(17) a. I think that, *to Bill*, John gave a book.

b. the book that, *for Bill*, John would never buy

This move also raises a question what drives the final step of movement (as well as the DP-internal one) in cases like (15) in the light of Last Resort considerations.

Another problem that arises for this approach with the determiner taking CP(=RRC) as complement is that modification cannot be captured in terms of adjunction. In (7) and (8), the RC is not an adjunct to the modified nominal (*claim*) at any stage of derivation. However, the

data in (18) strongly suggest that multiple relativization should involve RCs adjoining to the head successively as adjuncts.

(18) a. A [[[dinosaur] which is large] which is small] is not the same as a [[[dinosaur] which is small] which is large].

b. A [large [small [dinosaur]]] is not the same as a [small [large [dinosaur]]].

c. A [large [small [dinosaur]]] is a [[[dinosaur] which is small] which is large].

(Lasnik & Uriagereka 2005: 41)

Citing the discussion in Ernst (2002), Lasnik & Uriagereka (2005) observe that when the modifiers are postnominal (RRCs as in (18a)), the leftmost dependent is interpreted in combination with the head before the rightmost dependent is, and that the exact opposite is the case when the modifiers are prenominal (adjectives as in (18b)). That is, the modifier can then be taken to modify its immediate c-command domain (i.e., its sister).

This principle of interpreting first the modifier which is closest to the relative head and taking the combination of the head with this modifier as the head that the next dependent modifies can be best captured if an RC (or an adjective) is adjoined to the head, successively in cases like (18a, b, c), on my account. A Kaynean proposal would not be able to account for multiple modification in simple terms. Modification then poses a serious empirical challenge to the proposal. Unless we assume that an adjunct clause is adjoined to the modified in view of the above data of relativization, we will miss out on straightforwardly explaining modification in terms of adjunction structure.

Still another problem with this determiner complementation analysis arises from morphological considerations. In a language with overtly realized Case distinctions (e.g., German), the head N of a restrictive relative construction bears the Case of the external determiner, not that of the internal RP, as Alexiadou et al. (2000) note:

(19) der Junge (/ *Jungen), den wir kennen
the-NOM boy-NOM (/ *boy-ACC) who-ACC we know
'the boy who we know' (Alexiadou et al. 2000: 19)

This morphological fact follows from the standard approach in (20a) but not from the determiner complementation alternative in (20b).

(20) a. [DP D [NP [NP N] [CP RP... *t* ...]]]

b. [DP D [CP [DP_i [NP_j N] [RP *t_j*]]] C [TP ... *t_i* ...]]] (see also (8)) [RP = relative pronoun]

The standard approach in (20a) assumes that the N-head forms a constituent (an extended projection DP, in the sense of Grimshaw 1991) with the external determiner and never with the

RP. In contrast, the alternative approach in (20b) has the head nominal “NP_i” as the Spec of RP, which leads us to expect it to agree in Case with RP, but the expectation is not borne out. Kayne’s (1994: 88) suggestion that D-N relation is reflected at logical form by incorporation of N into D in (20b) will not work for the problem at hand without complication, since morphological realization of Case takes place in the phonological component (Φ), not in the semantic component (Σ), where incorporation is claimed to take place. Polish is another language with morphological Case that poses the same problem (see Borsley 1997, Bianchi 2004).

Advocates of the determiner complementation analysis cite as evidence in its favor the fact that the definite determiner may select CP, as is clear in (2) and (3). Yet it is not the case that just any CP is selected (witness: “*the [_{CP} that John wrote (a) book]” or “*the [_{CP} what John wrote]”). Rather, what is required here is a CP whose Spec contains the A'-moved nominal which may function as the head of an RRC: exactly the structure that mimics the relative head plus the RRC on the standard approach. It is not clear how to ensure such structure without ad hoc stipulation. Thus, the alternative approach is not as simple as it is often made out to be. On the standard approach, this structure is simply generated as such. The remaining question for the matching analysis is how to guarantee the effects of the determiner selecting a CP in certain cases. A semantic approach to this issue is a possibility to pursue.

The above survey of the pros and cons of the two approaches to relativization highlights the fact that they are incompatible and complement each other, the advantages of one of them being the drawbacks of the other. To solve this conundrum, I propose to combine most of the crucial aspects of both approaches, preserving their virtues while getting rid of their drawbacks. Specifically, I generate the head of an RRC outside the RRC (as in the standard account), while raising the RP plus the head, not the RP alone, within the RRC (as in Kayne’s (1994) approach). The RRC is adjoined to the external head (as in the standard analysis). I then exploit the operation of deleting (a portion of) the head in the RRC under identity, a well-established operation in Φ .

3. My proposal for restrictive relative clauses (RRCs)

My proposal comprises two parts. First, I propose to generate the external head, to which the RRC (CP) is adjoined, as on the standard matching approach. Second, within the RRC, the RP plus the internal head is generated and displaced to SpecCP, not just the RP, as on the alternative approach. The first part ensures all the virtues of the standard approach accounting

for the facts related to extraposition, modification, German morphology, etc., while getting rid of all the problems entailed by the alternative.⁵ The second part guarantees the binding and scope assignment facts discussed above, the advantages of the raising analysis on the alternative approach. In Φ , deletion under identity with the external head deletes the matching internal head.

Consider a DP (21a) and its surface structure (21b) at Spell-Out, abstracting away from the Rizziian articulated clause architecture and the current multiple phase-level Spell-Out framework.

(21) a. the claim which John made

b. [DP the [NP *claim* [CP [DP_i which *claim*][C' C [TP John made [DP_i ~~which claim~~]]]]]]

The NP *claim* within the raised DP_i deletes under identity with the higher NP *claim*.

I propose that this deletion operation takes place under the following conditions in Φ .

(22) α deletes β iff (i) β does not c-command α , and

(ii) β is phonologically nondistinct from α

The German case (19) suggests that Case distinctions are disregarded for deletion under identity in German. This holds in Polish as well. On this approach, the entire DP structure in (21b) (minus C', on the multiple Spell-Out theory) will be sent to Φ , where the internal head *claim* within DP_i in SpecCP undergoes phonological deletion under “identity” with the external NP. This yields the same output that the standard approach directly generates. This analysis readily extends to multiple relativization (cf. (18a, c)), in which the first RC adjoins to the external head, the second to the complex of the external head plus the first and so on. The external head deletes the internal one successively via (22).

An anonymous referee has brought to my attention Citko’s (2001) study, which adopts an approach similar to mine. Of particular interest is her discussion of Principle C effects: contrary to expectation, RRCs in (23a) do not manifest the effects, while cases involving variable binding do as in (23b).

(23) a. The picture of John_i which he_i likes is on the front page. (Citko 2001, (37))

b. *The letters by John_i to her_j that he_i told every girl_j to burn were published. (Citko 2001, (22))

She argues that in (23a), the *wh*-phrase *which picture of John* moves to SpecCP, where the internal head *picture of John* deletes under identity with the external head in Φ (cf. (22)) and reconstructs to its trace position in Σ :

(23') a. [TP [DP The picture of John_i [CP [which ~~picture of John_i~~]] [TP he_i likes *picture of John_i* is

on the front page]]]] (Citko 2001: 10)

She then argues that the offending copy can delete in Σ , since it is recoverable from the external head. She goes on to claim that in Σ , either the upper copy, the external head, or the lower copy *in situ* may delete, and the issue of which copy deletes is determined by independent principles. For example, variable binding in (23b) precludes deletion of the trace copy of *letters by John_i to her_j*, giving rise to the Principle C effect. This analysis of Principle C effects is couched in my theory of RRCs and strongly supports it. Notice that it is not enough to say as she does that in principle either copy can delete in Σ , since both copies are needed for predicate-argument structure interpretation. We should say then that interpretation of predicate-argument structure refers to full structure involving no LF deletion, while cases of RRCs like (23a) may exploit post-deletion structure.

This hybrid account yields an additional gain by rendering unnecessary the unmotivated, theoretically dubious DP-internal raising of the complement NP to SpecDP (see NP_j raised within DP_i in (8)), required on Kayne's (1994) analysis to get the word order right. More importantly, this hybrid approach provides a straightforward account for the case in which the external and internal heads do not match and hence both surface in our terms, not triggering deletion under identity (or at least, not deleting the unmatched portion, assuming partially overlapped material in some constructions). This case presents an apparently insurmountable problem for an alternative approach like Kayne's (e.g. Murasugi 2000, Aoun & Li 2003, Bianchi 2004), barring unmotivated movement and other operations which violate Last Resort. The reason is that the raising hypothesis has as a consequence that the internal head is (identical to) the external head. Consider the sentences in (24).

(24) a. the *man* whose *wife* is in Cuba

b. el *hombre* cuya *esposa* está en Cuba (Spanish)

the man whose-F.SG. wife-F.SG. is in Cuba 'the man whose wife is in Cuba.'

c. Dort steht der *Bahnhof*, dessen *Bild* ich dir gezeigt habe (German)

there stands the station whose-M.SG.GEN picture-N.SG.ACC I you shown have

'There stands the station whose picture I showed you.'

In (24a), (24b), and (24c), (part of) the internal head (*wife*, *esposa*, *Bild*) does not match the external head (*man*, *hombre*, *Bahnhof*) respectively. On the hybrid account then, no deletion operation applies to *wife*, *esposa*, *Bild*, in Φ , yielding the correct output. By contrast, these examples are underivable on the alternative approach without recourse to a series of unmotivated ingenious operations. Take (24a) for example: assuming "[DP_i [DP_j whose man's] wife]" as the

relevant portion of the underlying structure, the containing DP_i moves to the Spec of some XP in the CP domain, then NP *man* must raise to the Spec of the contained DP_j (a dubious operation as noted above), as Kayne (1994: 90) suggests, and then the contained DP_j raises out of the containing DP_i , leaving *wife* behind. Finally, *man* must raise out of DP *vacuously* to a higher Spec position within the CP domain. The last step of movement, which is needed for extraposition considerations as discussed earlier, raises the question of Last Resort as well as vacuous movement and so does the intermediate step of the contained DP_j 's movement out of the containing DP_i . The standard analysis may fare well here because nothing in principle prevents distinct heads from being generated in both positions on this account, so no problem should ensue.

A similar point can be made for relative constructions with pied piping:

(25) a. the [[*scientist*] in whose *book* I found the answer]

b. la [[*persona*] de quien hablamos] (Spanish)

the person-F.SG of whom speak-PA.1st.PL the person of whom we spoke'

c. Der [[*Mann*], mit dem sie tanzt], ist mein Vater. (German)

the man-M.SG.NOM with whom-M.SG.DAT she dances-PRES.3.SG is my father

'The man with whom she is dancing is my father.'

On the alternative approach, these constructions are difficult to derive short of a series of *ad hoc* non-Minimalist operations that flout Last Resort, which requires that each step of movement be forced. (25a) is, for example, even more challenging for the alternative approach: PP first raises to the Spec of some XP in the CP domain, then the NP *scientist* must be displaced to SpecDP, then the contained DP must raise out of the containing DP, perhaps to SpecPP, and then the nominal *scientist* must move out of the raised DP and out of PP to a higher Spec within the CP domain *vacuously*, a hopeless derivation.

Equally challenging, if not more so, for the alternative account are extreme cases of pied piping found in English as illustrated by famous examples such as "[Reports [the height of the lettering on the covers of which the government prescribes]] should be abolished" (Ross 1986: 126-127). The derivation of this sentence would require at least successive-cyclic displacement of the nominal *reports* through SpecNP, SpecDP, and SpecPP, considering (8) and the sentences in (25). Finally, again *reports* must be *vacuously* displaced to a higher Spec. These displacements must each be individually motivated. Thus, it seems that any analysis based on Kayne's analysis of relatives (e.g., part of Murasugi's (2000) conclusion that hinges on Kayne's analysis) cannot be sustained.

As for MaxRCs (e.g., “the wine that John drank that night”), they basically pattern with RRCs, featuring scope assignment and anaphor binding under reconstruction, which suggests a basically similar analysis of their syntax. In contrast, ARCs behave differently, so we suggest that in ARCs only a *wh*-RP (e.g., *which*) is base-generated within TP and subsequently displaced to the Spec of CP (RC), which is adjoined to the head DP, as in (1b). This accounts for the absence of binding and scope assignment reversal under reconstruction, as discussed above. Consider (26):

- (26) a. *?_i[That portrait of himself_i], which_i John_j painted which_i last year, is expensive.
 b. [That portrait of him_j], which_i John_j painted which_i last year, is expensive.
 c. I called those two patients, who_i every doctor will examine who_i. [$*\forall > 2$]
 (Cf. Alexiadou et al. 2000: 32)

See Bianchi (2004: 83) for similar facts in Italian. This hybrid approach makes interesting predictions with respect to Japanese relative clauses, to which we turn in next section.

4. Relative Clauses (RCs) in Japanese

Murasugi (2000: 235) observes that (27) (= her (8a)) patterns with (28) (= her (11)), arguing that the so-called RCs in Japanese are in fact not RCs but “pure complex NPs.”

(27) [[Mary-ga *e_i* kaetta] riyuu_i]

M.-NOM left reason ‘the reason_i Mary left *e_i*’

(28) a. [[sakana-ga yakeru] nioi]

b. [[doa-ga simaru] oto]

Fish-NOM burn smell

door-NOM shut sound

‘the smell that a fish burns’ (Lit.) ‘the sound that a door shuts’ (Lit.)

She goes on to point out that her analysis, if correct, provides support for Hoji’s (1985) generalization: Japanese relatives cannot involve movement (see *inter alia* Kuno 1973 on this). (27) may not contain a gap because *pro* can appear only in argument position in Japanese, so *pro* cannot occur in (27), nor can a *wh*-trace occur in (27) if Hoji’s generalization holds. Kuno (1973) argues that only “the aboutness relation” is required between the RC and its head in Japanese relative constructions.

My account of RCs correctly predicts the existence of gapless constructions like those in (27) and (28a, b). Similar gapless RCs in Chinese (Aoun & Li 2003: 198) also bear the prediction out. Similarly, the following Ishikawa’s (2009: 13) example can receive a natural account in our terms:

(28) c. Mary-wa [John-ga Kanada-san-no komugiko-o yaita]-*no-o* tabeta.

-TOP -NOM Canada-made-GEN flour-ACC baked-one-ACC ate

‘Mary ate what became of John baking Canada-made flour’ (Lit.)

This is a case of unmatched heads, hence involving no deletion. *No* may well be a *generic* (not *anaphoric*) pronoun allowing for a wide range of interpretation depending on context. An example like this has constituted a major stumbling block for both the standard and the alternative approach. In passing, Ishikawa’s data intended to show that the relative here is a complement to *no* are neither robust nor compelling.

By contrast, gapped cases can be seen as involving deletion of the internal head via (22), as it is nondistinct from the external one:

(29) [Ken-ga hon-o yonda] hon

Ken-NOM book-ACC read book ‘the book Ken read’

That is, given our analysis, I do not see any reason to posit *pro* as the internal head in a case like (29) as Murasugi (2000: 259) does (with her (75)), as the deletion principle (22) can deal with such a case: (22) kicks in automatically here.

A question that remains is why languages like English do not allow for relatives of the type (27)-(28). Relativization of these languages must involve operator movement, while that of Japanese apparently cannot. One might think that the contrast reduces to whether “the aboutness relation” suffices to link the adnominal clause to the head NP in a case like (27)-(28) or not: positive for Japanese and negative for English, for example. However, Chinese relatives cast doubt on this speculation. As Aoun & Li (2003: chs.5-7) show, Chinese relatives look exactly like their Japanese counterparts: neither require a determiner, a complementizer nor an RP, both are head-final, and crucially, both include gapless variants like (28). Yet Chinese relatives clearly involve movement as evidenced by reconstruction and island condition effects they exhibit, unlike their Japanese counterparts. Thus, it seems that Chinese sports both basically English-type relatives involving OP movement and Japanese-type relatives implicating no movement.

Let us consider next internally headed relative clauses (IHRCs), i.e., relative constructions in which the relative head appears inside the clause lacking an RP. Languages like Ancash Quechua, Lakota, Classical Japanese, etc. possess IHRCs as well as externally headed relative clauses (EHRCs), those canonical RRCs with the head external to the RRC.

(30) a. EHRC in Ancash Quechua

[NP [s' nuna *t*_i ranti-shqa-n] bestyai] alli bestya-m ka-rqo-n
 man buy-Prft-3 horse(NOM) good horse-Evd be-Pst-3
 'The horse the man bought was a good horse.'

b. IHRC in Ancash Quechua

[NP nuna bestya-taranti-shqa-n] alli bestya-m ka-rqo-n
 man horse(Acc) buy-Prft-3 good horse-Evd be-Pst-3
 'The horse the man bought was a good horse.'
 (Ishikawa 2009: 2; originally due to Cole 1987: 279)

Classical Japanese is parallel to Ancash Quechua with respect to IHRCs (as well as EHRCs). These IHRCs are abundantly attested in Classical Japanese. Consider (31), in which apparently no movement of the relative head occurs as is characteristic of modern Japanese RCs.

(31) hatuse-ni maude-te, ... [NP *minomusi noyoonaruru mono-no* ayasiki kinu
 Hatuse-DAT pay.homage-ing bagworm like person-NOM strange clothes
 kitaru]-ga ito nikuki, ...
 wore-NOM very offensive

'While making a pilgrimage to Hatuse (Temple), ... [a bagworm-like person wore strange clothes] was very offensive' (Lit.) (= When I made a pilgrimage to Hatuse Temple, ...a bagworm-like person who wore strange clothes looked very offensive')

(Matsuo & Nagai 1979, eds., *Makura-no-sooshi*, Passage 308)

Modern Japanese also has a similar construction except that it has in addition a marker *no* attached to the RC.

(32) Kare-wa [*tukue-no ue-ni hon-ga aru*]-no-o totte, yomi-hajime-ta
 he-TOP desk-GEN top-DAT book-NOM exist-MARKER-ACC taking read-begin-PAST
 'He took and began to read the book was on the desk.' (Lit.)

Murasugi (2000) argues that the italicized portion of (32) is not an argument but an adjunct and that *pro* is generated in a preverbal position as the object of a transitive verb *totte* "take" (for a dissenting view, see Ishikawa 2009: 17ff.). Ishikawa (2009: 1-8) claims, following Kuroda and Murasugi, that Japanese IHRCs cannot contain a temporal adverb like *yesterday* because the events described by the main clause and the RC must be contiguous occurrences, hence they are untensed. Based on this observation, he argues that the construction must have access to discourse for temporal interpretation. But an example like the following is perfect, disproving his claim and undermining his theory.

(33) [Taroo-ga *kinoo* ringo-o katte-kita]-no-ga mada nokotte-iru yo.

Taroo-NOM yesterday apple-ACC bought-Marker-Nom still remain you-know

‘(Some of the) apples Taroo bought yesterday still remain, you know.’

Thus, it is debatable if modern Japanese indeed contrasts with Classical Japanese and other IHRC languages in this regard. If modern Japanese differs from Classical Japanese here, then it begs a question of diachronic evolution of Japanese relatives.

Now consider the question how IHRCs in Ancash Quechua, Lakshota, and Classical Japanese are derived. It seems that the external head is deleted under identity with the internal one, rather than the other way around as (22) dictates. It is tempting to speculate that for these languages, (22) is revised as containing only the condition (ii), a marked option and a departure from the norm in deletion (witness VP Deletion, which observes (22) in full). If this is correct, it should come as no surprise that IHRCs are crosslinguistically relatively rare. Alternatively, and more plausibly, IHRCs may have a null external head, an arbitrary *pro*, which is construed with the lexical internal head. Hence no deletion applies here. This will bring Classical Japanese relatives closer to modern Japanese relatives. These speculations cry for close study.

If the present analysis is on the right track, both external and internal RRCs in Ancash Quechua, Lakshota, and Classical Japanese are underlyingly EHRCs. The upshot of all of this is that the external and internal heads are in fact both separately generated for RRCs and undergo deletion in phonology under ‘identity’.

5. Concluding Remarks

I proposed a hybrid Minimalist account for RRCs, incorporating most of the basic tenets of the standard approach to relativization and its alternative: adjunction of the RRC to its host, the head, which is base-generated *in situ* (the standard approach), and raising of the RP plus a nominal head matching the external relative head (the alternative approach). To avoid redundancy of the head, I proposed a deletion operation to delete the matched nominal in phonology.

The operation may also account for IHRCs in languages like Ancash Quechua, Lakshota, and Classical Japanese, deleting the RC-external head in accord with the revised (22). Or more likely, IHRCs may have a null external head. A corollary of this analysis is the existence of relative constructions in which the internal and the external head do not match, and both surface. From this perspective, I conclude that Japanese constructions like (27) and (28a, b, c) which display no such matching are in fact RCs after all in terms of the present conception of

RCs, *pace* Murasugi and Ishikawa.

One remaining problem has to do with some evidence that a determiner selects an RC. This is often cited as evidence for a Kaynean analysis of determiner complementation in RCs. But this selection is not generally attested; witness “the/a book (which I wrote).” Rather, such selection is limited to cases like (2), (3), and their ilk. A semantic account for this type of selection is conceivable and even plausible in view of its semantically restricted nature. Hence such examples do not constitute compelling evidence for determiner complementation. The untenability of Kayne’s analysis of RCs undermines his Antisymmetry Hypothesis, which requires this analysis, as Borsley (1997) points out.

Notes

1. The evidence for taking *that* in (1a) or (1b) as being a complementizer rather than a relative pronoun (RP) is quite robust (see Kayne’s (2008a, b) strenuous efforts to argue otherwise, however). For one thing, unlike *wh*-RPs such as *who* (*whose*, *whom*) and *which* (*whose*), *that* in RRCs is invariant in form regardless of the Case it bears in the RC. For another, *that* is always employed irrespective of the humanness of the head of the RC. Further unlike *wh*-relatives, it does not allow for any preposition immediately in front of it as one would expect it would if it were an RP, which licenses preposition pied-piping in English, etc. (cf. “the issue *with which* we must deal ...” versus “*the issue *with that* we must deal ...”). All of this follows from the view that *that* is a complementizer, but it would be a puzzle if it were an RP.

This analysis of *that* as complementizer is plausible in view of some historical facts about *that*. In earlier stages of English (beginning around the end of the 13th century and the beginning of the 14th century) the form of *wh*-word + *that* in RCs is well attested:

- (i) First, I .../Am dwellynge with the god of thonder,/Which *that* men callen Jupiter, (*HF* 606-9) (Blake 1992: 302)
- (ii) He *which that* hath no wyf, I holde hym shent; (*CT* IV. 1320 [5: 76]) (*ibid.*)

The same obtains in Old English relatives, which may be introduced by “se Ðe ‘RP that’”. “Ðe” has developed into *that*. This suggests that an RP was once followed by a complementizer *that* and in transition to Present-day English, English has since deleted a *wh*-relative word, or the complementizer *that*, or both, depending on context.

The sequence of an RP plus a complementizer in RRCs is also found in the Bavarian dialect of German although the use is restricted to demonstrative-based RPs, as I have discovered in my field-work (2009).

(iii) Ich habe einen Freund, *der dass* dich interessieren *möge/könne*.

I have a friend who(< the) that you interest may/can

‘I have a friend who that may/can interest you.’ (Lit.)

Similarly in FRs in Northern Italian dialects like Venetian and Bergamasco:

(iv) Go ciamà *chi che* ti me gavevi domandàde ciamar(*lo). (Venetian)

(I) have called who that you me had asked to call (him) (Bianchi 2004: 79)

(v) O avertìt *chi (che)* dūsìe averti(*l). (Bergamasco)

[I] have advised whom (that) [I] had to-advise(him) (Bianchi 2004: 79)

From this perspective, Spanish RRCs of the form “P+el/la/...+que ...” (e.g., *en el que* ...‘in the that...’) can be construed as a case of a pied-piped null operator (OP) followed by a complementizer *que* (vi).

(vi) Es un Mercado al aire libre *en el que* puedes conseguir cualquier cosa, ...

(It) is a market in.the air open in the (which) that (you) can obtain any thing

It is an open-air market in the (which) that you can obtain anything...’ (Lit.)

For some evidence for OP prior to *que* as in “P+el/la/...+OP+que ...,” witness the attestation of a Det+*wh*-word in French, Italian, Spanish, and Shakespearean English. To sum up, the sequence of an RP and a complementizer is attested crosslinguistically, lending further support to the conclusion that *that* in English RRCs is a complementizer.

2. Kayne (1994) assumes that *wh*-relativization involves an operator (a *wh*-RP here) as a D element, while *that*-relativization does not. In the latter, only the NP raises to SpecCP; in (7) then, NP *claim* alone raises, not DP_i containing OP. This assumption is however not viable, since it renders the raising unmotivated as the construction lacks an operator, unless one assumes that *that* is an RP as in Kayne (2008a, b). Besides, there is strong indication that as indicated in (7), DP, not NP, raises, leaving a DP trace, as convincingly shown by Borsley (1997), who cites for evidence facts about binding, control, parasitic gaps, Case, etc. If what raises is a DP, as seems clear, then D must be null in the *that*-relative. This consequence of Kayne’s analysis does not seem to be empirically supported, as Borsley (1997: 633-637) shows citing (i), (ii), etc.

(i) *Bill liked [DP e [NP picture]].

(ii) *[DP the [CP the picture that Bill liked]]

He persuasively argues that ruling out cases like (i)-(ii) is not straightforward without recourse to ad hoc mechanisms. Thus, we must assume that *that*-relatives involve OP movement, as standardly assumed.

3. With respect to English relatives, Aoun & Li (2003: ch.4) argue that as opposed to *that*-relatives with a *the*-type determiner, head reconstruction is unavailable with *that*-relatives with a *some*-type determiner and *wh*-relatives. If this is indeed the case, then the option of raising the “operator” cum head

complex should be restricted to *that*-relatives with a *the*-type determiner, and only a null operator or *wh*-operator (is base-generated and) raises in *that*-relatives with a *some*-type determiner and *wh*-relatives respectively. Alternatively, these “operators” also raise in tandem with the head but the head is rendered invisible for binding or scope interpretation. According to Aoun & Li, Lebanese Arabic also shows a similar dichotomy between definite relatives, which manifest head reconstruction, and indefinite relatives, which do not.

4. That is, unless one adopts a proposal like Bianchi’s (2004: 86ff.), which posits a presuppositional projection “Ground Phrase” above ForceP. But she specifically restricts this projection to specific RRCs for deriving their specific interpretation, since “Ground” is responsible for presupposition, the source for specific interpretation. Thus, nonspecific restrictive relatives (as well as maximalizing relatives) lack Ground Phrase, and thus still remain problematical even on this account.
5. Case attraction of the RP to the external head and its reverse Case attraction in languages like Latin, Old High German, etc. may well be morphological processes subject to an adjacency condition, easily capturable by the hybrid approach.

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